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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WILKINS III, HARRY D

ART UNIT	PAPER NUMBER
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1742

12

DATE MAILED: 02/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/787,907

Applicant(s)

SHIMA, KUNIHIRO

Examiner

Harry D Wilkins, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. Claims 1, 4 and 5 are pending.
2. The rejections under 35 USC 103 based on Sistare et al, Tsuji et al, Applicant's admission of prior art and Sato et al or Tenbrink references have been withdrawn in view of the cancellation of claims 2, 3 and 6-8.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4 and 5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated Sato et al (JP 09-115355).

Sato et al teach (see paragraph 23) an Ag-oxide composite material. Sato et al disclose that the material contains 1.7 at% Mg and 1.9 at% Ni. This equates to about 0.39 wt% Mg and about 1.06 wt% Ni. Sato et al teach (see paragraphs 15 and 16) that the alloy is subjected to internal oxidation. Sato et al teach (see paragraphs 23 and 24) that the alloy is processed into a pipe shape. Regarding the presence of other elements (Mg, Ni and NiO) in the composition of Sato et al, the present claims recite a composition "consisting essentially of" Ag and MgO, thus closing the composition to elements which materially affect the novel characteristics of the alloy. It is asserted that Mg, Ni and NiO do not materially affect the novel characteristics of the present alloy, and support for such assertion can be found throughout the present specification,

especially Table 1 on page 11. Specifically, examples 3 and 4 contain amounts of free Mg and Ni. The amounts of MgO and NiO present are less than the theoretical maximum of MgO and NiO, thus, some of the starting Mg and Ni are present as free metal and have not been reacted to form oxides. Therefore, Sato et al's Ag-oxide composite material anticipates the claimed composite material.

Regarding claim 4, Sato et al teach (see paragraphs 15, 16, 23 and 24) an alloy with 0.39 wt% Mg and 1.06 wt% Ni that is subjected to internal oxidation and is in the shape of a pipe. Regarding the presence of other elements (Mg and Ni) in the composition of Sato et al, the present claims recite a composition "consisting essentially of" Ag, MgO and NiO, thus closing the composition to elements which materially affect the novel characteristics of the alloy. It is asserted that Mg and Ni do not materially affect the novel characteristics of the present alloy, and support for such assertion can be found throughout the present specification, especially Table 1 on page 11. Specifically, examples 3 and 4 contain amounts of free Mg and Ni. The amounts of MgO and NiO present are less than the theoretical maximum of MgO and NiO, thus, some of the starting Mg and Ni are present as free metal and have not been reacted to form oxides.

Regarding claim 5, Sato et al teach (see paragraphs 23 and 24) that the alloy is processed into a pipe shape.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenbrink (JP 06-045132) in view of Applicant's admission of prior art.

Tenbrink teaches (see claim 2 and paragraph 7) an Ag-oxide composite material. Tenbrink discloses that the material contains 0.1-0.25 wt%, in terms of elemental metal, of an oxide of Mg and 0.1-0.25 wt%, in terms of elemental metal, of an oxide of Ni. Tenbrink teach (see paragraph 7) that the alloy is subjected to dispersion hardening by oxidation. Regarding the presence of other elements (Mg, Ni and NiO) in the composition of Sato et al, the present claims recite a composition "consisting essentially of" Ag and MgO, thus closing the composition to elements which materially affect the novel characteristics of the alloy. It is asserted that Mg, Ni and NiO do not materially affect the novel characteristics of the present alloy, and support for such assertion can be found throughout the present specification, especially Table 1 on page 11. Specifically, examples 3 and 4 contain amounts of free Mg and Ni. The amounts of MgO and NiO present are less than the theoretical maximum of MgO and NiO, thus, some of the starting Mg and Ni are present as free metal and have not been reacted to form oxides.

However, Tenbrink does not teach that the material is a "pipe" or a "tape" Ag alloy for use in a process of treating a superconductive material.

Applicant admits as prior art (see pages 2, lines 4-12 of the specification) that auxiliary material for use with a superconductive material is formed into a tape or pipe

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and then a multi-layered composite structure is formed. Applicant admits (see page 3, lines 10-18) as prior art that Ag-metal oxide composites have been used as a superconductor auxiliary material.

Therefore, it would have been obvious to one of ordinary skill in the art to have utilized the Ag-metal oxide composite material of Tenbrink for the superconductor auxiliary material in the conventional shape of a tape or pipe because the material of Tenbrink provides an alloy with a coefficient of thermal expansion matched for use with a ceramic compound wire rod (see paragraph 5).

Regarding claim 4, Tenbrink teaches (as above) a composition with 0.1-0.25 wt% MgO and 0.1-0.25 wt% NiO. Regarding the presence of other elements (Mg and Ni) in the composition of Sato et al, the present claims recite a composition "consisting essentially of" Ag, MgO and NiO, thus closing the composition to elements which materially affect the novel characteristics of the alloy. It is asserted that Mg and Ni do not materially affect the novel characteristics of the present alloy, and support for such assertion can be found throughout the present specification, especially Table 1 on page 11. Specifically, examples 3 and 4 contain amounts of free Mg and Ni. The amounts of MgO and NiO present are less than the theoretical maximum of MgO and NiO, thus, some of the starting Mg and Ni are present as free metal and have not been reacted to form oxides.

Regarding claim 5, it would have been obvious to one of ordinary skill in the art to have utilized the Ag-metal oxide composite material of Tenbrink for the superconductor auxiliary material in the conventional shape of a pipe because the material of Tenbrink

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provides an alloy with a coefficient of thermal expansion matched for use with a ceramic compound wire rod (see paragraph 5).

### ***Response to Arguments***

7. Applicant's arguments filed 17 January 2003 have been fully considered but they are not persuasive. Applicant argued that the prior art alloys did not consist essentially of Ag and MgO or Ag, MgO and NiO, and contained amounts of free Mg and free Ni. In response to this argument, the Examiner points out that the examples presented in Table 1, on page 11 of the present specification contain amounts of free Mg and free Ni. Specifically, examples 3 and 4 contain less than the theoretical maximums of MgO and NiO. Thus, anything less than the maximum formation of the oxides would leave the remainder of the starting metal as unreacted free metal. Thus, there is evidence presented in the specification that free Mg and Ni do not materially affect the novel characteristics of the present invention.

### ***Examiner's Comments***

8. Should the calculations for converting the starting Mg and Ni amounts to the theoretical maximum amounts of MgO and NiO be desired, Applicant is requested to contact the examiner

9. While determining the presence or absence of free Mg and Ni in the material of the present invention, the examiner noticed that there appears to be an error in the specification in Table 1 (page 11 of the specification). Examples 1 and 2 contain more NiO than theoretically possible. It is unclear how the compositions of examples 1 and 2 "magically" create more moles of NiO than there were moles of Ni present in the starting

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material. Theoretically, there should be at most one mole of NiO for every mole of Ni, however, e.g.-example 1 produces about 1.37 moles of NiO for one mole of Ni and example 2 produces about 1.29 moles of NiO for one mole of Ni.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tenbrink et al (US 6,028,036) is an English equivalent of DE 4104421 cited in paragraph 7 of Tenbrink (JP 06-045132).

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D Wilkins, III whose telephone number is 703-305-9927. The examiner can normally be reached on M-Th 6:00am-4:30pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Harry D Wilkins, III  
Examiner  
Art Unit 1742

hdw  
February 13, 2003

ROY KING   
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700